

## LA-UR-21-23897

Approved for public release; distribution is unlimited.

Title: DAF Planet/Flat-Top Building: Summary of Unexpected Airborne Radioactivity on Low-Volume Air Samples Due to Ventilation Lineup Changes

Author(s): Phelps, Eloura Danin

Intended for: Training

Issued: 2021-04-22

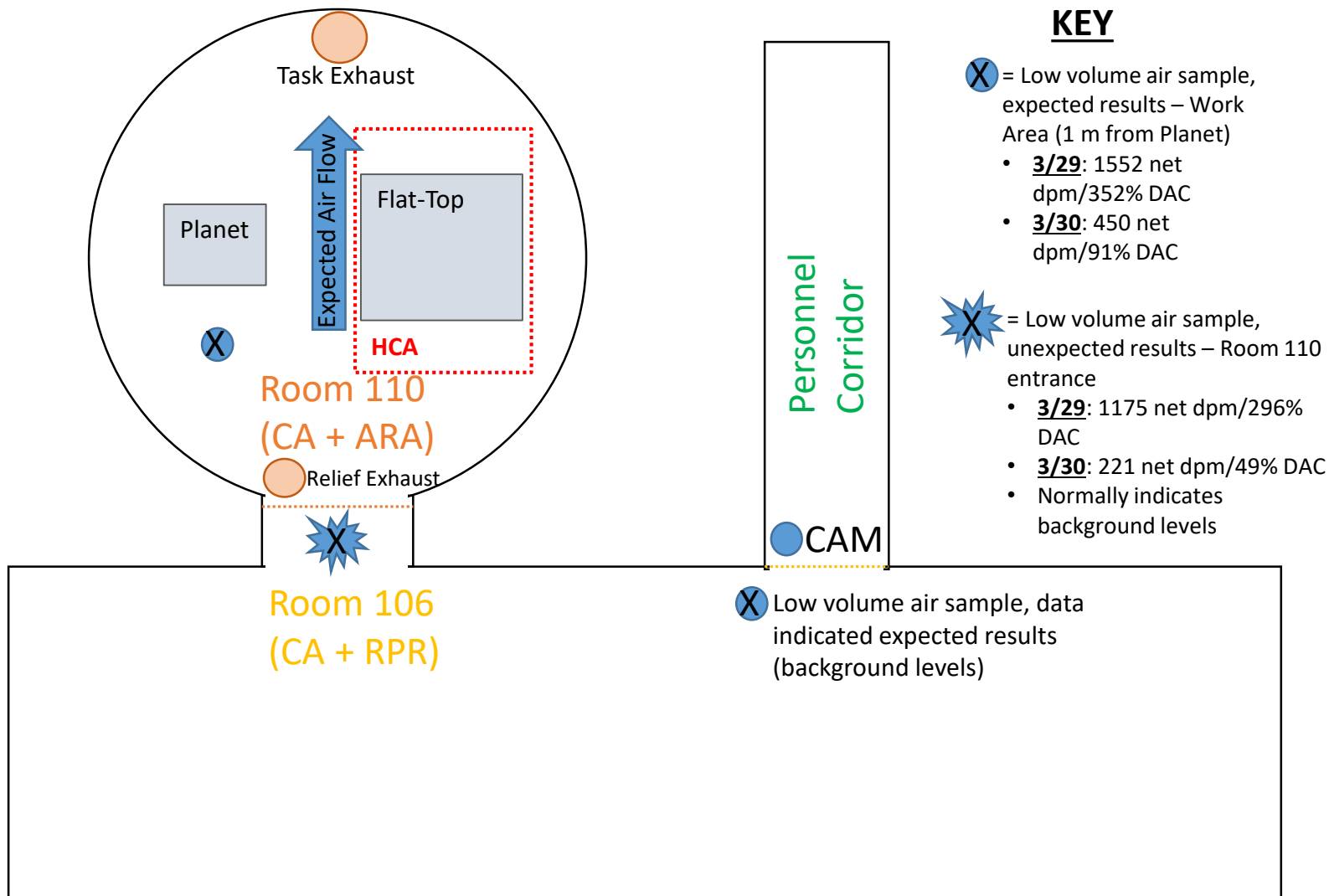
---

**Disclaimer:**

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by Triad National Security, LLC for the National Nuclear Security Administration of U.S. Department of Energy under contract 89233218CNA000001. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.

# **DAF Planet/Flat-Top Building: Summary of Unexpected Airborne Radioactivity on Low- Volume Air Samples Due to Ventilation Lineup Changes**

# Data Visual



# Timeline of Supporting Information + Solutions

## Saturday 4/10/21

- The RCT supervisor analyzed data collected during the Planet MUSIC experiment on 3/29/21 and 3/30/21. The data indicated unexpected airborne radioactivity at the mouth of the round room. The RCT Supervisor also observed the task exhaust was running at a lower volume than normal.
- No contamination was detected on area survey swipes, no suspension limits were exceeded, and the CAM did not alarm.
- The RCT supervisor notified the DAF NOM and NCERC FOD. An administrative hold was placed on the building.

## Monday 4/12/21

- The RCT Supervisor reviewed similar data collected the week of 4/5/21 during Flat-Top operations, which also produces airborne radioactivity. This data indicated normal, expected results. All personnel were wearing respirators during both Planet MUSIC and Flat-Top operations.
- The current ventilation configuration was verified to be correct by the MSTS DAF HVAC CSE.
- A discussion with all interested stakeholders was scheduled and conducted on 4/12/21 at 1200 hrs.
- The velocity transmitter, a component that automatically adjusts air flow to maintain differential pressure, is known to be non-functional for this building. All adjustments must be performed manually.
- MSTS IH conducted an air flow test and confirmed that the building maintains sufficient pressure differential to return to normal operations.

## Tuesday 4/13/21

- Subsequent discussion revealed that multiple ventilation lineup changes, which caused the anomalous condition, were conducted without notifying RadCon or secondary REOP holders of the change.

**Short Term Solution:** NOM approval is now required for any changes to ventilation lineup. Task Exhaust Fan is set at 2000 cfm (maximum setting).

**Long Term Solution:** New velocity transmitters have been ordered and are expected to be installed by the end of April.